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[54] **COMPUTER CONTROLLED FILAMENT WINDING SYSTEM HAVING TENSIONING DEVICE**

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[58] **Field of Search** 242/439, 441.1, 242/441.4, 448.1, 419.7, 419.8

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[57] **ABSTRACT**

An apparatus for winding fine filaments onto stationary long rods includes a supporting base having control mounting and filament mounting regions. The filament winding region includes first and second parallel bearing rods on which are slidably mounted a filament winding region traversing base member. The traversing base member traverses along the first and second parallel bearing rods at a selectable rate of speed as moved by a coupled mechanism. A filament winding head is mounted to the traversing base member and rotated about the long rod which passes through a cylindrical passageway in the filament winding head. A spool of fine filament is mounted on the filament winding head concentric with the cylindrical passageway in the filament winding head and the long rod, for dispensing fine filament from the spool onto the long rod. Also provided are a controller mechanism, coupled at least to the mechanism for effecting traversing movement of the traversing base member and for establishing the selectable rate of speed at which the traversing base member including the filament winding head and spool of fine filament traverses the winding region about the stationary long rod, for controlling and establishing a winding profile of the fine filament onto the long rod.

12 Claims, 2 Drawing Sheets